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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/916,062	07/26/2001	Juzer Jangbarwala	1777	7740

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EXAMINER

VALENTINE, DONALD R

ART UNIT PAPER NUMBER

1742

DATE MAILED: 04/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/916,062

Applicant(s)

JANGBARWALA, JUZER

Examiner

Donald R. Valentine

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 13-15 and 17-35 is/are rejected.
- 7) ☒ Claim(s) 12 and 16 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4, 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1-2, 6-11, 13-15, 17-20, 22-27, 29-31 and 35 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Mueller et al.,

Mueller et al disclose method and apparatus, which has a filtration system which separates a solution into two first and second concentrations by means of micro filtration or ultra filtration membrane system. There is a return means, which appears to return a first portion (permeate) of the solution to the "reservoir". There is a mixer/settler tank that appears to be an 'an agitator in fluid communication with the "reservoir"'. Mueller et al show a multiplicity of conduit loops. See column 7, lines 45-67; column 8, lines 1-67; and column 9, lines 1-55. A nanofilter is disclosed. (See Abstract and column 3, lines 59-61). The oppositely poled electrodes (anode and cathode) of the reference inherently have an electrical potential difference between them.

If not shown by the reference, then the claims would be considered an obvious modification there over because the "reservoir" would be considered the functional equivalent of the reference recitation of an "electrowon tank house" as well as being further obvious to provide a power supply for supplying a voltage differential between the anode and cathode.

5. Claims 1, 8, 23, 26-29, 30-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mueller et al '186 in view of Green et al, '431.

Mueller et al disclose method and apparatus, which has a filtration system which separates a solution into two first and second concentrations by means of micro filtration or ultra filtration membrane system. There is a return means, which appears to return a first portion (permeate) of the solution to the "reservoir". There is a mixer/settler tank that appears to be an 'an agitator in fluid communication with the "reservoir"'. Mueller et al show a multiplicity of conduit loops. See column 7, lines 45-67; column 8, lines 1-67; and column 9, lines 1-55. A nanofilter is disclosed. (See Abstract and column 3, lines 59-61). The oppositely poled

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electrodes (anode and cathode) of the reference inherently have an electrical potential difference between them.

Mueller et al do not show a crossflow membrane, valves or pumps.

Green et al, '431 show the crossflow filtration equivalency with ultrafiltration and microfiltration membranes in a retentate and permeate filter separation of metal ions for eventual electrowinning of the metal of the metal ions. (See column 24, lines 14-48; column 26, lines 25-60; column 27, lines 45-65; column 28, lines 5-20.)

It would be considered within the skill of the art to utilize the filtration, valves and pump as suitable for use with the Mueller et al reference because Mueller et al and Green et al each are desirous of separating metal ions by filtration and subsequent electrowinning of the metal ion solution being treated and the apparatus of Green et al appears to be interchangeable and adaptable for separation, recycling and filtration of solutions which have been separated into retentate and permeate, wherein each fraction is subsequently electrowon.

6. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mueller et al '186 in view of applicant's admitted prior art as stated on page 2, lines 1-8.

Mueller et al disclose method and apparatus, which has a filtration system which separates a solution into two first and second concentrations by means of micro filtration or ultra filtration membrane system. There is a return means, which appears to return a first portion (permeate) of the solution to the "reservoir". There is a mixer/settler tank that appears to be an 'an agitator in fluid communication with the "reservoir"'. Mueller et al show a multiplicity of conduit loops. See column 7, lines 45-67; column 8, lines 1-67; and column 9, lines 1-55. A nanofilter is disclosed. (See Abstract and column 3, lines 59-61). The oppositely poled

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electrodes (anode and cathode) of the reference inherently have an electrical potential difference between them.

Applicant's admitted prior art suggests that the agitation of ionic solutions by means of glass beads, or rotating cathodes is conventional in the art.

It would be considered within the skill of the art to apply these methodologies for the purpose of creating agitation in solutions because this would increase the susceptibility to efficient recovery of the metal ions contained within the treated solutions.

Allowable Subject Matter

7. Claims 12 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter:

The references of record do not show or suggest an electrowinning cell with a valve fluidly disposed between a solution holding tank and a filter collection tank and including a concentration sensor disposed in the holding tank and a controller in communication with the valve and said sensor wherein the sensor and controller operate to monitor metal ion concentration in the solution holding tank.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Green et al, '344, 175 show ultrafiltration of copper containing solutions.

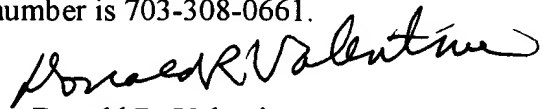
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald R. Valentine whose telephone number is 703-308-3327.

The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 703-308-1146. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Donald R. Valentine
Primary Examiner
Art Unit 1742

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March 31, 2003